

creation of a State psychiatric institute, centrally located, where the clinical and research work of the various State institutions could be correlated and directed, as well as developing its own lines of research and teaching, would be of tremendous value and undoubtedly would pay for itself in time. The further growth of psychiatry depends on continued efforts along educational, medical, and medico-legal lines.

811 Medical Office Building.

RAPIDLY DEVELOPING CATARACTS AFTER DINITROPHENOL

By W. W. BOARDMAN, M.D.
San Francisco

DISCUSSION by Wilber F. Swett, M.D., San Francisco; Hans Barkan, M.D., San Francisco; Kaspar Pischel, M.D., San Francisco.

THE dictates of fashion, as well as the recognition of the morbid states frequently associated with chronic obesity, have created in both physician and patient an interest in the causes and methods of controlling this condition. Many theories have been suggested, but, in the final analysis, obesity results from an excess of food intake over the caloric demands. In many this is obviously due to excessive food intake, but in others there seems to be some definite metabolic disturbance, sometimes connected with a recognizable endocrine dysfunction, but at other times not associated with any as yet recognized endocrine disorder. The recent work of Blotner on the cholesterol curves following the ingestion of a fatty meal, and the influence of insulin and posterior pituitary extract on these curves, seemed to suggest an answer to many of our questions. However, much confirmatory work is still necessary and, judging from our recent failure to confirm Blotner's work, the problem is much more complicated than would appear from his report.

The fundamental principle in the treatment of obesity is to have the caloric intake less than the caloric demands. This goal may be reached by decreasing the food intake to the required point, or by increasing the metabolic demands. The former objective may be safely attained by a strict, but properly balanced ration. The metabolic rate may be increased by increased muscular work, by endocrine preparations—especially thyroid and posterior pituitary—or by certain drugs.

The endocrine preparations frequently give brilliant results, but at times have proved unsatisfactory because of unpleasant reactions, the difficulty, inconvenience, and expense of hypodermic administration, etc.

Of the drugs, dinitrophenol, as suggested by Doctors Cutting, Mehrrens, and Tainter in 1933 (*Journal of the American Medical Association*, July 15, 1933), seemed to answer the necessary requirements; it was capable of oral administration, it produced a marked increase in the rate of metabolism, and, after careful animal and clinical study, it seemed to be free from serious deleterious effects upon the human organism when given

in properly controlled doses. The drug rapidly gained wide acceptance as an aid in the treatment of obesity, as it was possible, in the average ambulatory patient, to obtain by diet and dinitrophenol a weight loss of two or more pounds per week. This loss was sufficient to encourage the majority of patients to persevere later with dietary restrictions alone. A few adverse reports appeared, but these were apparently satisfactorily explained on the basis of excessive dosage or unusual idiosyncrasy. In a recent study by Strang and Evans, although they advise against the use of dinitrophenol on the grounds that in their hands it had proved of little aid, they state that "no symptoms other than cutaneous were noted that could consistently be attributed to the use of the drug."

Thus, after at least a year and a half of widespread use, dinitrophenol had apparently established itself as a safe metabolic stimulant and, to many, as a valuable aid in the treatment of the chronically obese. However, recent events have thrown grave doubts on this conclusion, and further laboratory study is demanded before continuing its clinical use. In the last month, ten cases of rapidly developing cataract in women under fifty have come to my attention, seven occurring in San Francisco and three in Oakland.

The eyes have been examined by a number of oculists—Doctors W. D. Horner, Hans Barkan, Kaspar Pischel, F. J. S. Conlan, W. F. Swett, and others. They all agree that the condition is most unusual, occurring as it does in relatively young women and progressing with the utmost rapidity; in two cases to complete blindness within one month.

The cases have been treated by various clinicians, and the only apparent common factor has been the ingestion of dinitrophenol. The majority of these patients have been on restricted diet, and it might be suggested that some deficiency was the exciting factor. However, in the experience of the oculists mentioned, such lens changes have not been encountered from dieting alone. Another peculiar factor is that in two of these cases the clinical evidence of disturbed vision did not manifest itself for ten to twelve months after the drug had been discontinued, but then showed rapid progress. No connection can as yet be established between the occurrence of these lens changes and the total duration of treatment, the daily maximum dose, or the total dosage.

Although it is evident that the relationship between the drug and the lens changes has not been proved, it is equally evident that until all doubt is removed dinitrophenol should not be prescribed.

490 Post Street.

DISCUSSION

WILBER F. SWETT, M.D. (490 Post Street, San Francisco).—The recent development of rapidly maturing cataracts in relatively young women who have been using dinitrophenol confronts us with a difficult problem to solve.

The clinical course of these cases has been very similar, and the lens shows a very rapid swelling and iridescent appearance which are like those changes seen in certain diet deficiencies. A period of eight to ten months has elapsed from the time the dinitrophenol was discontinued and the cataracts have de-

veloped, which makes it difficult to believe that the drug has played any part.

The patients that I have seen personally have impressed me as having definite signs of endocrine disturbance, and I feel that there must be conditions present other than the effect of dinitrophenol itself. Most of these persons, consciously or subconsciously, have remained on limited diets, so it may well be a deficiency in vitamins A or G, or both, or an upset in the calcium metabolism due to parathyroid dysfunction. Which of these factors or combination of factors is responsible, is impossible to say at this time.

It is possible that the increased metabolism following the use of dinitrophenol upsets the balance of the endocrine functions in patients which are already borderline endocrines, and probably precipitates the parathyroid dysfunction or results in the insufficiency of vitamins A and G in the system. However, I agree with Doctor Boardman that its use should be discontinued until we ascertain the part played by dinitrophenol in this curious chain of circumstances. It would be well to discover what type of patient is sensitive to dinitrophenol and what part it plays in the metabolic dysfunction causing the lens changes.

There is no experimental data published to date which would indicate that dinitrophenol could cause the development of cataracts even after prolonged administration. It is interesting to note that during the latter part of the War, when both the French and United States Governments were manufacturing dinitrophenol on a large scale as an explosive, that many of the workers showed toxic symptoms and became very emaciated; but there is no record of development of cataracts in any of these men.

✱

HANS BARKAN, M. D. (Stanford University Hospital, San Francisco).—Within the last two months I have seen seven patients with cataracts, who form a definite clinical group such as has not appeared before in my practice. This group has as a clinical entity the following characteristics: They are women, aged from forty-five to fifty-five; they have all been obese and have lost from forty to sixty pounds within the last year; they have all taken dinitrophenol; they all state that up to two or three months ago their vision was unimpaired; they all state that within two or three months after stopping dinitrophenol they noticed a rapid decrease of vision; five of the seven had to be led into my office, although a month ago they were able to walk around alone. The cataracts which they all have are bilateral, of a gleaming silk, bluish appearance, the lens markedly swollen, the anterior chamber shallow.

In two cases the swelling was so acute and marked that there was a paresis of the sphincter of the pupil from the pressure with, consequently, large pupils. I have operated on two such patients; in both, the lenses were soft, coming out as a bag, and in one a small amount of iris pigment drained out with the aqueous, somewhat as in a diabetic cataract. In both, the zonule was remarkably brittle for the age of the patient. There were no other ocular lesions. The capsule of the lens may have been rendered permeable to the aqueous, and inhibition of the aqueous by the lens fibers has rendered the lens cloudy. In just what way dinitrophenol directly or indirectly influences this process I feel we are not in a position to state at present. The cases, however, are such a marked clinical group that the term "dinitrophenol cataract" would naturally be applied to them; naturally, also the use of dinitrophenol should be stopped.

✱

KASPAR PISCHEL, M. D. (490 Post Street, San Francisco).—I would like to refer the reader to the accurate description of this unusual formation of cataract by Dr. W. D. Horner in *The Journal of the American Medical Association*, July 13, 1935, page 108.

As the formation of these opacities in the lens is probably only the local reaction of general degenera-

tive disturbances brought on by dinitrophenol, it seems to me interesting and reasonable to try to counteract this chemical by the use of hormone preparations of the internal secretion glands. Several years ago Siegrist of Bern, Switzerland, reported favorable results in beginning cataract from the use of paraphakin (euphakin). Doctors Kerr, Hosford, and Shepherdson of the department of medicine and ophthalmology, University of California, reported favorable results with thyroid gland preparations. Besides, local stimulation of the circulation by the use of dionin, glycerin, or subconjunctival salt injections, might be beneficial.

REGULATION OF PROFESSIONS BY THE STATE*

THE RIGHT TO REGULATE, REASONS THEREFOR, METHODS IN USE, AND ATTITUDE OF REGULATORY BODIES AND THE COURTS, WITH RELATION THERETO

By LIONEL BROWNE, ESQ.†

San Francisco

TODAY most people accept regulation, rather than concern themselves with the reasons for it. Yet our complex civilization continues to exist because of regulation and not, as many persons sometimes suspect, in spite of it.

A wise English statesman once said, "Nothing is law that is not reason"; and, consequently, to find our law, we must go deeper than the law or regulation, and seek the reasons and causes for it.

In the beginning there were no physicians: each man was his own. Because of abuses by stronger men, weaker ones banded together for mutual protection. Seeking protection from animals and invaders, every member of a tribe had to surrender, for the good of all, some right or privilege that had been his. Each had to dedicate a portion of his time and service, that he might in turn receive benefits and advantages that might not otherwise be his.

One of the highest forms of this service was that of a warrior, one of the lowest, the tiller of the soil. Both were important in the scheme of things, for without the tiller of the soil the warriors could not eat, and without the warrior these early peoples could neither defend themselves nor conquer their enemies.

Some persons had more success than others in treating wounds, administering to ailments and the like, and gradually assumed a preferred position in the scheme of things; for by their efforts the warriors and men of the field were kept in better health, and so able to take their part in the society of that day.

THE DOCTOR IN HISTORY

The first physicians did not labor in the fields; they received their food and shelter, had leisure, and certain advantages perhaps culminating in their being the artist or historian of the tribe, but they were not, even at that early date, in business for themselves. They had advantages not enjoyed by others, but their greater right was the right

* Read before the general meeting of the California Medical Association at the sixty-fourth annual session, Yosemite, May 13-16, 1935.

† Deputy Attorney General of the State of California.